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ABSTRACT

A comprehensive student basic skills assessment program was developed at St. Louis Community College (SLCC) at Florissant Valley to appraise student readiness to take courses, gather information for counseling and advising, diagnose student problems, and evaluate program efficiency and effectiveness. The steps taken in developing the program were: (1) defining the purposes of the assessment program; (2) determining the constituencies to be served; (3) learning from programs at other schools; (4) analyzing assessment instruments; (5) conducting research on the effectiveness of standardized tests; (6) implementing a formal decision-making process for the program; and (7) implementing the program. At SLCC, the assessment process begins with the student's admission to college, which is followed by the administration of a basic skills battery (unless the student qualifies for exclusion), an orientation session, an appointment with a counselor or advisor, and course registration. The process is designed to be conducted in 1 day, and, although students can participate in parts of the process over a longer period, it is hoped that 70% of the students at SLCC can be served through the 1-day assessment model. Other colleges contemplating the development of an assessment program should avoid slickly packaged assessment systems and tests that claim to be quick and easy; and use tests as an adjunct to advising and counseling rather than as ends in themselves. (HB)

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The Development of a Comprehensive Student Basic Skills Assessment Program at St. Louis Community College's Florissant Valley Campus

November 10, 1983

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Presented at the Annual Conference of the Missouri Association of Community and Junior Colleges (17th, Lake of the Ozarks, MO)

INTRODUCTION

Thank you for your interest in learning more about assessment. By the end of the presentation I hope you will have a clear picture of what is happening at St. Louis Community College at Florissant Valley, as well as some useful information about assessment as a means of:

1. Helping students gain more from their college experiences;
2. Helping your college better meet students' educational, career, and personal/social needs;
3. Helping your college improve its retention rate; and
4. Helping your institution gather data for educational planning and decision-making.

The end results could include more effective placement of students in beginning levels of coursework, more accurate data on which to base educational decisions, better information for counseling and career-decision making, and more effective use of taxpayer's dollars.

I'll begin the discussion by posing - and answering - a question ... "Why start a comprehensive assessment program?" An assessment program can serve a number of purposes, including:

1. Planning learning experiences - information about learning styles, study habits and attitudes, skills and abilities related to success/failure in specific courses, and similar data can be gathered;
2. Student counseling and advising - information for career counseling, data on how aptitudes and abilities relate to grades, and personal-social data, can be obtained;
3. Diagnosing student problems - diagnosing student problems - basic skills assessment, learning disabilities assessment, and personal/social testing, can be accomplished;
4. Appraising student readiness - basic skills testing upon admission, periodic progress assessment and competency-based promotion, becomes possible;

5. Student classification and categorization -- (sometimes dangerous area re "disparate impact") identifying students in need of remedial or developmental work, and identifying students qualified for honors programs, can become more accurate;

6. Grading, promotion & merit awards - progress assessment, critical thinking appraisal, performance appraisal can be systemized;

7. Evaluating efficiency & effectiveness - gathering data for cost-benefit analysis, for trend analysis, for retention/attrition studies, and for institutional research becomes possible, and;

8. Evaluating innovations - gathering data for statistical analysis - (i.e. relationship between x innovation and y outcome; did changing this aspect of teaching result in improved student performance ,etc) can become a regular part of your institution's evaluation framework.

At Florissant Valley, our present emphasis is on appraising readiness, counseling and advising, diagnosing problems, and evaluating efficiency and effectiveness. We decided to implement our assessment program because it was becoming increasingly clear that our faculty members were having to teach students with an ever widening range of abilities in their classes. For example, chemistry and accounting professors were having to teach basic math skills to some of their students in order for them to cope with the course content, which penalized the students who were ready for college level work. Sociology and psychology professors were having to teach reading skills in order for some of their students to understand the concepts involved. And so on, and so on ....

Nor is this an isolated phenomenon! A recent article in a major education journal concerned the lack of basic writing and analytical skills of graduate students at leading universities who were Phi Beta Kappa graduates from respected colleges. In addition, reports like the "National Commissions" are causing widespread concern among educators and the general

public across this nation. We in higher education cannot sit back and wait for, or count on, secondary and elementary schools to improve their "product" - we must do something about this state of affairs.

In order to cope with this situation, Florissant Valley began testing students in the three basic skills of math, reading, and English several years ago. Students were tested, however, in three different locations on campus, and at three different times. This testing did not occur under "standardized" conditions. (That is, students were not subjected to the same testing environment, given exactly the same instructions, timed correctly, etc.) In addition, this testing often occurred after the academic advisement process was over or, for whatever reason, results simply did not reach advisors in time to be useful. Finally, not all students who were supposed to be tested actually ended up being tested. They "slipped through the cracks" in the system and ended up in courses for which they simply were not academically prepared to handle. The net result was a relatively high course withdrawal rate, an unacceptable college dropout rate, student dissatisfaction with courses, advising, and testing, couselor/advisor frustration from working with under-prepared students. In addition, students often had to make as many as 5-6 visits to the campus to complete the admissions, testing, advising, registration process. The college decided to change this situation; that's where our current assessment program comes in.

When I arrived in June, 1982 it was with the understanding that the college was giving me one full year to undertake a research and development process that would ensure the creation of a sound program. I cannot stress

the importance of this lead time enough. An effective assessment program cannot be thrown together in a desperate attempt to meet some vague need. A rational and carefully developed plan must be implemented if your assessment program is be effective. I believe the following step by step process constitutes such a plan.

Step 1 - Define your problem. Exactly what do you want your assessment program to accomplish? On which of the aforementioned "purposes" do you need to concentrate? If appraising student readiness is important, do you want to predict academic success/failure, or determine present academic skills, or both?

Step 2 - Determine your constituencies. Who and what will be impacted by your program? Who will have inputs into the process and what will the outputs be? ALL THESE CONSTITUENCIES, INCLUDING STUDENTS, SHOULD BE REPRESENTED IN THE DECISION-MAKING PROCESS AS THE PROGRAM IS DEVELOPED. I'll discuss the role of Florissant Valley's "constituencies" later.

Step 3 - Don't reinvent the wheel. Try to turn it into a radial tire instead. I conducted a review of Testing and Assessment programs at other 2- and 4-year colleges across the country in order to utlize their best ideas and practices, and to learn from their mistakes. As result of this program review process, I identified Johnson County Community College in Overland Park, Kansas as having an assessment program which could provide a good model for a site visit. This visit paid off because I was able to identify their major problem areas as well as their strengths, and as a result, was able to anticipate similar problems on our campus, and thereby prepare for them.

Step 4 - Analysis of Assessment Instruments. I analyzed well over 100 standardized tests and test batteries for possible use in our assessment program, using a rating system I had devised earlier and which was published in The Journal of Reading (Feb.1983). Tests which were reviewed were identifed by the following means:

A. Buros' Mental Measurements Yearbooks & Tests in Print

B. Literature Review

C. Publisher's catalogs

D. Determining what other colleges were using.

Step 5 - Research. A research study was set up for Fall semester 1982 to determine the effectiveness of 14 of the above tests which appeared to be suitable for our students. A random sample of students was chosen of which a surprisingly good 36% agreed to participate. Along with a number of self-referred and faculty referred individuals, I ended up with a pool of over 1000 students who participated in the research. Each student completed between 2 and 6 of the tests, depending upon their endurance and their own interests in knowing more about themselves. Demographic data were collected, as were grades at the end of the semester, specific grades on tests, and other academic performance information. Correlational analysis on the data generated by the research helped us determine:

a) which tests we wanted to use on our campus;

b) for what purposes we wanted to use the tests; and

c) cutoff scores and other statistics to be used in the assessment program.

I'll discuss the tests we use and other mechanics of our program later. Two of the more interesting things we found, by the way, were that high school

grades/rank no longer work as well as predictors of college success as they once did, and that there is at least one standardized English test which appears to work as well as, if not better than, a writing sample for our students.

Step 6 - A Formal Decision-Making Process Must be Implemented. I mentioned earlier that the various constituencies at your college should be represented in the decision-making process as the program develops. One way to formalize that is by creating an advisory (or a decision-making) committee to work with the project director. At Florissant Valley we had an Advisory committee composed of the following:

1. Department heads from English, Math, Nursing, & Reading - These departments needed to have a voice in the proceedings because assessment has a large impact on their programs.

2. Directors of Admissions & Counseling - We interact on a daily basis with each other so, to ensure a smooth process, these individuals need to be involved to protect their interests as well as to convey their insights.

4. Others including myself, the Dean of Student Services, the Associate Dean of Instruction and two counselors to add balance and perspective.

The one group not included which I would have if I were doing this again is students. Students, after all, are the ones most affected by the assessment program.

This group met on a bi-monthly basis during the Fall 1982 and Spring 1983 semesters and advised the Dean of Student Services and me on matters such as:

A) who should be tested in basic skills - do we test all students, or just those in certain categories?

B) Do we test just Freshmen, or transfer students as well?

C) What is the primary purpose of basic skills testing?

D) When do we test? Before or after admission?

E) Where will the Assessment Center be located?

F) How many staff and how much equipment will be needed?

G) What tests will we use and what cutoff scores will be utilized?

H) What will the scope of the program be? Do we want to engage in LD testing? IQ testing?, etc.

I) How will the program interact with other departments? . . .

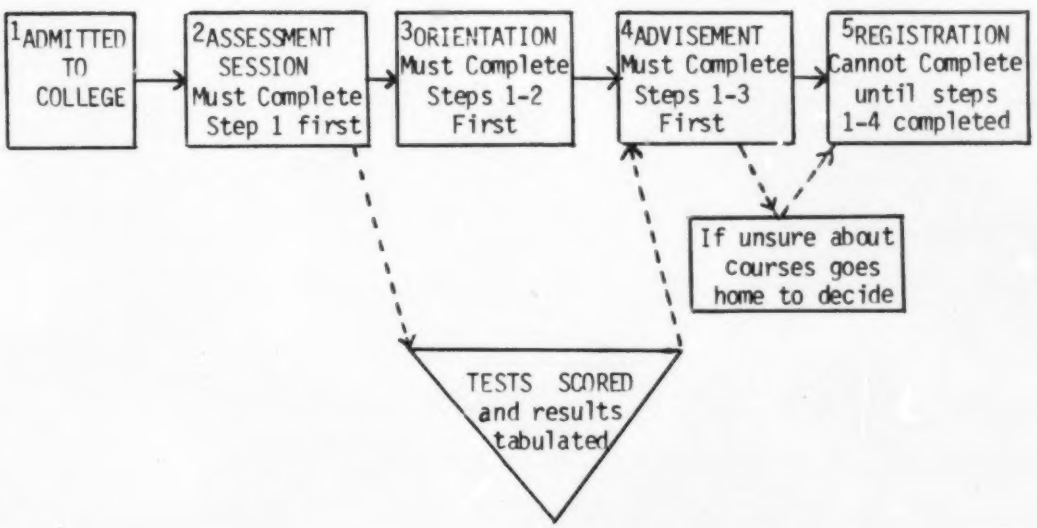
And many more issues. The work of this committee was instrumental in formulating the Assessment Center Policies and Procedures document which is attached as Appendix A. In addition, participation on the committee gave those involved a "stake in the action," so to speak and made it easier, politically, in the long-run to implement the program because we covered most of the political bases on campus. (Note I said "most of" - no matter how careful you are, it seems like you always forget someone - or something.)

Step 7 - Implementation of the program. In implementing the program, we decided to test only certain students, rather than all students. Basically, any student who demonstrates solid college potential by scoring at or above the 50th on SCAT, ACT or SAT Math & Verbal subtests does not have to complete the basic skills battery. Any student who already has a 2- or 4-year degree (and we have plenty of them, as well as students with MA's and PhD's) does not have to take our test battery. Students who have no degree intention, are taking less than 10 credit hours and/or have completed less than 15 credit hours do not have to complete assessment. However, students

who enroll in English writing courses must complete assessment regardless of the above. Sound complicated? It is, and it is causing some problems. However, as they are minor problems, so far, some fine tuning here and there will remedy the situation. The discussion will now focus on the mechanics of our program.

Figure 1 presents the step-by-step process a student must complete in order to enroll in courses at Florissant Valley.

Figure 1 - One Day Student Information and Registration Process


1ADMITTED TO COLLEGE
2ASSESSMENT SESSION Must Complete Step 1 first
3ORIENTATION Must Complete Steps 1-2 First
4ADVISEMENT Must Complete Steps 1-3 First
5REGISTRATION Cannot Complete until steps 1-4 completed
If unsure about courses goes home to decide
TESTS SCORED and results tabulated

At Step 1, the student applies to the college. After reviewing the applicant's documents, the Admissions Office informs the student by mail that he/she is admitted, but that he/she must first a) take the basic skills battery (unless they qualify for exclusion), b) then see an advisor or counselor. The student then calls the Assessment Center number stated in the admission letter to be scheduled for a testing session, at which point the student is told to be sure to schedule his/her advising appointment for

later in the day on their testing date, or for a day sometime afterward. We have 8 group testing sessions per week (up to 30/session) and Saturday morning testing sessions twice a month (60/session). If the need arises, we can add up to 5 more sessions per week.

At Step 2, student completes our assessment battery, which is composed of the Nelson-Denny Reading Test, the Comprehensive Tests of Basic Skills Language subtests (Form U), and a locally developed algebra or arithmetic test. Total testing and administration time is 2 1/2 hours. We are developing an orientation program (Step 3) which the students will attend after testing which will be about 1-1 1/2 hours long. Following orientation, they will have time for a conference with an advisor or counselor (Step 4), and still register for their classes that day (Step 5), if they know what courses they want. Students who complete assessment in the evening, or on Saturday, or who don't know what they want to take can complete the final steps at a later date. We hope, optimistically, to be able to serve well over 70% of our students with the 1 day model. While students are in orientation, their tests are scored by microcomputer and the results forwarded to counselors/advisors via CRT and/or paper copy (as a backup) prior to their advising appointment. The micro system we obtained to accomplish this test scoring process includes:

1. A Westinghouse Card Reader to score tests and process other data - can process several hundred cards in a few minutes;
2. An IBM-PC w/2 disk drives and 512 K memory;
3. An Epson FX-100 printer (160 cps);
4. A color monitor; and

5. Software for word processing; statistics; graphs & charts; programming; forecasting, simulation & trend analysis; and data base creation and management.

We also intend to add a communications device that will allow us to update the student data files on our district's mainframe using the microsystem electronically, and instantaneously, as soon as some internal data tracking problems can be resolved. The technology is available, however, to accomplish this and this feature can save a lot of time and reduce human error. Sound expensive? A comparable system, including the $1400 Card Reader and $2000 for software can be bought for under $6000. Our system will save us more than that in manpower costs during its first year of use. Now that we've covered the basics of developing an assessment program and how our program operates, there are some final cautions I'd like to impart:

Caution #1:

Don't buy into an expensive, slickly packaged "Assessment System" just because someone does a good selling job on you. I know of a college that bought such a system, which included audio-visual aids for developmental learning, that cost well over $200,000. I analyzed the system for use on our campus and found it devoid of theoretical base, devoid of proper development (especially for its basic skills testing component) and totally lacking in data to support its use. The college that bought this system recently scrapped it, because it was not producing results. I don't think any of us can afford $200,000 mistakes these days. Just because a system is expensive doesn't mean it's not good - what is important is to analyze products thoroughly from a technical standpoint before commiting funds to them. You must know what to look for in this regard.

Caution # 2:

Don't buy into an assessment battery just because it is quick and easy. One well-regarded national testing service recently placed a "Basic Skills Battery" on the market which contains an 8-9 minute reading test, a 7-8 minute English test, and a 9-10 minute math test. Tests which are that short simply do not have adequate validity and reliability. If you simply want to know whether someone can or can't read, they're fine! But if you want accurate information about a person's skills, they are not worth using. Any test that is worth using is going to have a lot of items, and take some time to complete. Cost and time considerations should not take precedence over important test characteristics like validity, reliability and standard error of measurement.

Caution # 3:

Beware of the data! Some publishers would have you think their product is the best on the market. They will make exorbita nt claims about breakthroughs. An aptitude test I examined recently, for instance, claimed to measure 15 discreet components of aptitude, and presented several pages of factor analysis data to support the contention. Looking closely at the data made me suspect their claims were not true. A little research uncovered several journal articles related to this instrument which indicated no more than 9 components of aptitude could be identified by this instrument. Look at what the publishers present in the way of technical data (don't just believe what they say) then go to external sources of information to validate their claims.

Caution # 4:

Don't Misuse Tests! As good as they are today, no test can give you a

totally accurate picture of a person's skills, abilities, preferences, or personal characteristics. Tests should be used as an adjunct to advising and/or counseling, and not as ends in and of themselves.

APPENDIX A:

St. Louis Community College
at Florissant Valley
Assessment Center Policies and Procedures

A. Whom to Test (for assessment/placement)

1. All students except those who

   a. are unclassified that have completed less than 15 credit hours;
   b. furnish proof of SCAT, ACT, SAT, or Ohio Psychological Examination scores at or above the 50th percentile on both the verbal and quantitative subtests;
   c. have already earned a two-or-four year college degree, or;
   d. have already completed the assessment process.

2. a. Students who plan to enroll in English writing courses must complete assessment.
   b. Students who plan to enroll in Mathematics courses who score below the 50%ile on the quantitative subtest of SCAT, ACT, or SAT must complete assessment.

3. All students, not having previously completed assessment, who complete 15 or more credit hours of college level coursework, including college level English (ENG:101 or equivalent) and college level mathematics (MTH:160 or equivalent), at Florissant Valley or elsewhere, with a C or better in both college level English and Mathematics, and an overall GPA of 2.00 or better, would automatically become a "regular" student and receive a waiver for assessment. Those students completing 15 or more credit hours, at Florissant Valley or elsewhere, who a) have not previously completed assessment and b) have not earned a C or better in college level mathematics and English or c) have not earned an overall 2.00 GPA, will have to complete assessment before registering for additional courses.

4. All students, not required to complete assessment, may do so provided they take all three test components. (This is to ensure a uniform data base and to prevent disruptions in the testing process caused by people leaving while others are still taking tests.)

5. THE PRIMARY PURPOSE OF BASIC SKILLS ASSESSMENT WILL BE COURSE PLACEMENT (see placement test score report from attached as Appendix B).

B. When to test (for assessment/placement)

Testing will occur after admission and prior to advisement.

C. Tests to Use (for assessment/placement)

1. For Reading, the Nelson-Denny Reading Test, Forms C and D for all students except Nursing program applicants, who will complete Forms E and F. While not perfect, this test is adequate for placement. Cut-off scores for this test, and for the other tests, are presented in Appendix A.

2. For English, all students who are required to take the Reading test (criteria in Section B) will take the Language subtests of the Comprehensive Test of Basic Skills (CTBS), Forms U/V, Level K (Junior College level). All students not required to take the Reading tests will complete the writing sample in the English Department, as is now the case. Placement results of the two methods will be compared at the end of the Spring, 1984 semester to determine whether to switch completely to the CTBS, or to return to use of a writing sample exclusively. If results with CTBS are suitable, all English placement testing will be handled by the Assessment Center beginning summer, 1984.

3. For Mathematics, the locally developed Intermediate Algebra Diagnostic Test and the Arithmetic Skills Placement Test will be used. In addition, research on the new edition of the CTBS Mathematics subtests (Junior College level) will be undertaken to determine the feasibility of switching to this nationally normed and standardized test in the future. At present, no other standardized mathematics tests appear suitable for our use.

D. Miscellaneous

1. All standardized testing on campus, to include SAT, ACT, SCAT, CLEP, miscellaneous professional exams, interest testing, aptitude testing, personal social testing, and any other non-class-room testing will be administered by, supervised by, and will be the responsibility of, the Counseling Center.

2. Aptitude, interest, and other testing for counseling or advising purposes will be available on a walk-in basis except when basic skills group testing is in progress.

3. No learning disabilities assessment will be undertaken.

4. Results of all placement testing will be distributed to the academic departments, to the Counseling Center, and to the Admissions Office within 24 hours of test completion. In most instances, scores will be available via CRT within the hour after test completion.

5. Hours of operation, which are subject to periodic adjustment, are presented as Appendix C.

APPENDIX A

Basic Skills Tests Cut-Off Scores

I. Reading - (4-year College Freshmen Norms)

a) 20th percentile or less on Vocabulary, RDG:005 recommended

b) 10th percentile or less on Comprehension, RDG:002 & 006 required

c) 11th through 15th percentile on Comprehension, RDG:011 & 008 required

d) 10th percentile or less on Total, RDG:002 & 006 required

e) 11th through 15th percentile on Total, RDG:011 & 008 required[1]

f) 16th through 25th percentile, RDG:011 & 008 recommended

g) 26th through 35th percentile, RDG:100 recommended

II. English (Junior College Norms)

a) 15th percentile or less on Total score, ENG:020 required

b) 16th through 35th percentile, ENG:030 required

c) 36th and above percentile, ENG:101 required

NOTE: Students scoring 11th - 15th or 31st - 35th percentiles may appeal their placement and complete a writing sample. Writing sample results would then be final.

III. Mathematics (local norms)

1. Intermediate Algebra Diagnostic Test (48 problems)

a) 15 or less correct, MTH:001 required

b) 16 to 30 correct, MTH:007 or 108 required*

c) 31 to 40 correct, MTH:140 or 124 required*

d) 41+ correct, MTH:160 or MTH:144 required*

2. Arithmetic Skills Placement Test (40 problems)

a) 27 or less correct, MTH:001 required

b) 28 or more correct, MTH:007 or 108 required*

*Choice depends on curricular requirements.

[1]Total score controls course requirement when Total Score and subtest score requirement conflict. Example, Total 10th, Comprehension 11th-15th, RDG:002 & 006 would be required.

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